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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,373	07/29/2003	Sridevi Narayan-Sarathy	20435-00141-US	4318

30678 7590 12/15/2005

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EXAMINER
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BERMAN, SUSAN W

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/628,373

Applicant(s)

NARAYAN-SARATHY ET AL.

Examiner

Susan W. Berman

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-48 and 50-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-48 and 50-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/21/2005 has been entered.

***Claim Objections***

Claim 1 is objected to because of the following informalities: The word “ynsaturated” should be “unsaturated”. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 24-26 are confusing because it is not clear whether the diacrylate, triacrylate and tetraacrylate are the multifunctional acrylate Michael acceptor in claim 4 or the Michael Addition product having a plurality of acrylate groups in claim 1. It is suggested that the phrase “comprising a diacrylate” be changed to read “comprising a diacrylate Michael acceptor”, for example.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 11-48 and 50-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ostlie et al (5,876,805) in view of Moy et al (5,945,489). Ostlie et al disclose light polymerizable thiol-ene compositions comprising an acylphosphine oxide photoinitiator. The "ene" component is a monomer or oligomer having a plurality of free radically polymerizable ethylenically unsaturated groups, such as (meth)acrylate groups. See the Abstract and Examples. Moy et al disclose polyacrylate oligomers obtained by Michael Addition which can be crosslinked using ultraviolet light without adding costly photoinitiators. See Table 5 and column 5, lines 20-63. Moy et al do not mention reaction with mercaptans.

It would have been obvious to one skilled in the art at the time of the invention to employ the polyacrylate oligomers taught by Moy et al as the polyacrylates in the thiol-ene compositions taught by Ostlie et al. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of providing a light curable thiol-ene composition because the polyacrylates disclosed by Moy et al having the same (meth)acrylate polymerizable functionality as the polyacrylates taught by Ostlie et al would be expected to polymerize with the thiol compounds in the compositions disclosed by Ostlie et al. It would have been obvious to one skilled in the art at the time of the invention to employ acetoacetate-containing polyacrylate oligomers disclosed by Moy et al in the compositions taught by Ostlie et al and to omit the acylphosphine oxide photoinitiator taught by Ostlie et al. One of ordinary skill in the art at the time of the invention would have been motivated to omit the photoinitiator disclosed by Ostlie et al in order to take advantage of the self-photoinitiating property of the acetoacetate-containing polyacrylate oligomers disclosed by Moy et al in the thiol-ene compositions disclosed by Ostlie et al. Ostlie et al provide motivation by teaching light curing of the disclosed compositions. Moy et al teach that disclosed Michael Addition polyacrylate compounds are self-photoinitiating.

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### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dowbenko et al (4,409,376) disclose reaction products of a compound containing an ethylenically unsaturated group and a compound having at least two reactive groups of varying reactivity. One of the reactive groups, such as a mercapto group, reacts with the ethylenically unsaturated group. The reaction is a Michael Addition reaction. The products are useful reactive diluents. The difference from the instantly claimed composition is that the mercaptan is monofunctional instead of multifunctional.

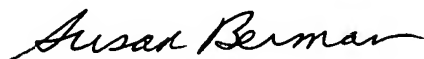
Dammann et al (US 2004/0115437) disclose compositions comprising cycloaliphatic epoxides and Michael Addition polyacrylates. The polyacrylates are obtained by Michael Addition of a multifunctional acrylate and  $\beta$ -dicarbonyl Michael donors. Mercaptans are not mentioned.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SB  
12/10/2005



Susan W Berman  
Primary Examiner  
Art Unit 1711